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Canadian Agriculture at a Glance

Article

Fork in the road: Canadian agriculture and food on the move

by Minh Ngo and Erik Dorff, Statistics Canada

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Canada

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Asparagus ready for market.

Food is as much a necessity as the air we breathe and the water we drink. But do we know where our food comes from, and what it takes to get it into our kitchens? Sometimes all it takes is a glance to find the place of origin; other times it may take some deeper investigation. Will the label read China, Chile, California, Ontario or British Columbia, the farm out back, or the backyard?

Canada is fortunate to have a diverse agricultural landscape that supports nearly 230,000 farms according to the 2006 Census of Agriculture. They produce a wide range of grain, oilseeds, vegetables, fruit and animals from coast to coast. That diversity, however, does not exempt us from being part of the global food market, both as exporters and importers.

A market in Pakistan. Photo: Paul Young

The question of where our food is grown or processed is coming under increased scrutiny, not just in Canada but in other countries, including our trading partners. Concerns underlying this increased focus include discussions of energy consumption required for food transport, environmental concerns, product safety, food security and food costs.

Food on the go

Many factors play a role in seeing the products featured in Canadian stores coming from farms beyond the local region, province or country (Table 1). These factors include the limitations of climate, and economic factors including government support and farm labour prices. A grocer's sourcing preferences based on volume and consistency also play a significant role. These same factors influence what local products are featured in the neighbourhood establishments or are exported to our trading partners. The expectation of Canadian consumers to maintain a certain level of food choice year-round as well as competitive pressures drive the food economy which ultimately connects all corners of the globe at your local food store.

Table 1
Exports and imports of selected agricultural goods in Canada, 2005

Agricultural product	Exports (thousands of tonnes)	Imports (thousands of tonnes)
Apples, fresh	54.2	159.2
Bananas[1], fresh	0.01	449.7
Cucumbers, fresh	50.0	42.4
Mushrooms, fresh	25.8	3.4
Pears, fresh	0.1	72.1
Peppers, fresh	57.1	102.6
Oranges, fresh	0.0	330.1
Strawberries, fresh	0.2	74.8
Tomatoes, fresh	146.3	171.7
Potatoes, white fresh	0.4	0.2
Beef	580.5	126.4
Chicken	91.9	132.9
Fish fresh and frozen sea fish	204.3	99.9
Mutton and lamb	0.3	19.3
Pork	1,103.0	134.3
Turkey	24.5	14.9

Note:
1. Banana export may be re-exporting industry rather than actual banana production.

Source: Statistics Canada, *Canada Food Stats*, Catalogue no. 23F0001XCB.

The global grocery store

The United Nations Food and Agriculture Organization (FAO) estimated that nearly US $670 billion in agricultural products were exported around the world in 2005, nearly 70% of which was food. Agricultural products include food for humans, animal feed, livestock as well as most products derived from animals and vegetables such as skins, fibres, and

oils. It excludes fish, fertilizer and items like machinery. Measured in constant 2000 prices, the value of international trade in agricultural products grew by 23% between 2000 and 2005.

Internationally the FAO ranked Canada ninth in 2005—with nearly US $21 billion in exports—behind Italy and Belgium but ahead of Australia and China (Table 2). Canada is a net exporter of agricultural products. The value of our agricultural imports was three-quarters of our agricultural exports (US $15.5 billion), ranking us 12th among importing nations.

Table 2
Countries ranked by the value of their total agricultural imports and exports, 20

Imports			Exports		
Rank	Country	US$	Rank	Country	US$
1	United States	57,168,452	1	United States	57,708,332
2	Germany	47,085,238	2	France	41,479,262
3	Japan	39,110,572	3	Netherlands	38,591,541
4	United Kingdom	37,257,132	4	Germany	37,966,915
5	China	36,599,255	5	Brazil	26,852,383
6	France	30,889,827	6	Spain	21,909,508
7	Netherlands	28,249,911	7	Italy	21,847,450
8	Italy	26,566,661	8	Belgium	21,629,726
9	Belgium	19,784,122	9	Canada	20,711,318
10	Spain	18,592,969	10	Australia	18,897,284
11	Russian Federation	18,139,640	11	China	17,200,628
12	Canada	15,469,564	12	United Kingdom	16,637,715
13	Mexico	12,627,083	13	Argentina	13,963,068
14	South Korea	9,332,308	14	Denmark	11,614,947
15	Saudi Arabia	7,507,284	15	Thailand	11,178,777

Source: United Nations Food and Agriculture Organization, *FAOStat*.

Planes, trains, trucks and ships

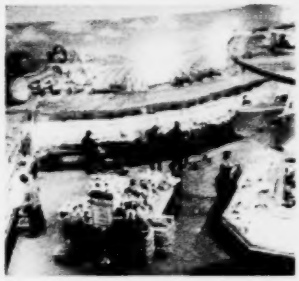
Photo: Emily Crocco.

Regardless of the direction of trade, whether export or import, food products have to be moved from Point A to Point B. Depending on where the food comes from, where it is going and how quickly it needs to arrive, transportation may involve all four modes—planes, trains, trucks and ships—which have varying levels of energy efficiency.

Goods traveling by air use more than four times the amount of energy by weight as road transport, nearly 40 times more than rail and over 44 times more than marine. When considering food miles, distance and mode of transportation both matter.

Looking local

In a country as large as Canada both domestic and international trade have broadened the variety of foods in our supermarkets. However, some people argue that it has made food more uniform, limiting local specialties and compromising flavour for a more standardized commodity that can survive the rigours of shipping and appeal to the greatest market. Others worry about food safety or the potential interruption in the flow of goods from afar.



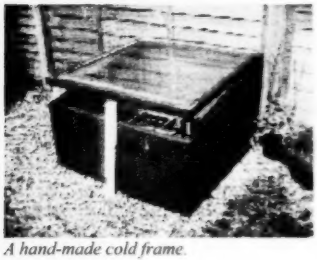
Some people have decided that a long-distance relationship between their fork and the farm just isn't working out. They want their food—or at least some of it—to be sourced locally, a movement that is picking up speed as the "100-Mile Diet." Other people have sought the spark of lesser known foods and specialty flavours—often local—as part of the Slow Food movement.

100-Mile Diet. The term that has come to describe buying and eating food entirely grown, manufactured or produced within a 100-mile radius of the home of the person who will be eating it.

Slow Food. A non-profit, eco-gastronomic, member-supported organization founded in 1989 to sustain local food traditions and traditional food products and to promote an interest in where food comes from, how it tastes and the impact of food choices.

Community Supported Agriculture (CSA). An approach to farming and purchasing food that essentially makes shoppers members of the farm for a season through annual financial commitments in return for fresh, seasonal, local produce.

Approaches to eating locally



A hand-made cold frame.

Many approaches are available to those people who want more local food sources. Some are returning to the backyard garden and growing what they can, whether it's a tomato plant, some kitchen herbs or a garden overflowing with produce to be enjoyed in season and preserved. Others are sourcing their food closer to home by seeking out local products at grocery stores and specialty shops, farmers' markets and roadside stands, or by purchasing directly from farmers or through Community Supported Agriculture (CSA). The CSA approach essentially makes shoppers members of the farm for a season through annual financial commitments that get them fresh, seasonal, local produce in return. Some communities are seeking local farmers to produce specialty products that may previously have only been available as imported goods. Many communities or community groups such as tourist bureaus, community health associations and farm groups have created lists or maps that link interested consumers with farmers in their region, enabling them to source food locally.

Photo: Jenny Kendrick

Foraging close to your fork

Wondering what would be on your plate if you followed a local diet? The Census of Agriculture is an excellent source for answers to that question. Data from the 2006 Census of Agriculture are organized and packaged in a user-friendly and easily searchable database as agriculture community profiles (www.statcan.ca/english/agcensus2006/index.htm), where you can find how far you'd have to go to get the product you want to eat—your community, region, province or across the country—as well as the number of farms and inventories or "intentions" on Census Day, May 16, 2006. While it won't direct you to the farm gate or farmers' market, it will give you a good idea of what is being grown and raised in your area.

Simply type in your location in the search feature, enter your community name and province and follow the links. You can browse through the tables to discover what's growing in your region.

A Canadian apple a day

Clearly some foods are better suited to being sourced locally than others. Take apples for instance—the 2006 Census of Agriculture identified 4,190 farms producing apples and they were in every province across Canada (Map 1 and Table 3). Depending on the variety, apples can mature anywhere from summer into the late autumn. That and the excellent storage quality of many varieties make buying fresh local apples feasible nearly year-round.

Table 3
Number of farms reporting apples and area, census years 2006 and 2001

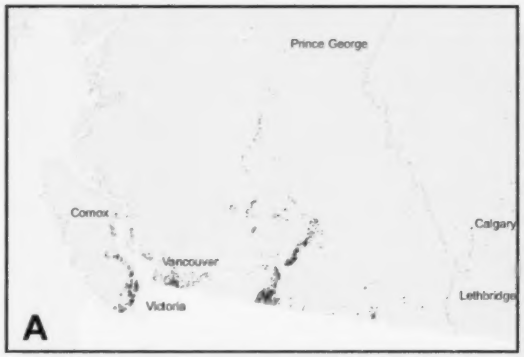
	2006		2001	
	Farms reporting	Hectares	Farms reporting	Hectares
Newfoundland and Labrador	7	2	5	x
Prince Edward Island	28	49	21	43
Nova Scotia	228	2,472	272	2,649
New Brunswick	61	324	72	417
Quebec	741	6,541	803	6,843
Ontario	1,223	8,162	1,419	9,814
Manitoba	23	11	26	23
Saskatchewan	55	49	42	x
Alberta	53	22	44	x
British Columbia	1,771	4,470	1,986	5,982
Canada	4,190	22,101	4,690	25,825

Symbol:
x suppressed to meet the confidentiality requirements of the *Statistics Act*

Source: Statistics Canada, Census of Agriculture.

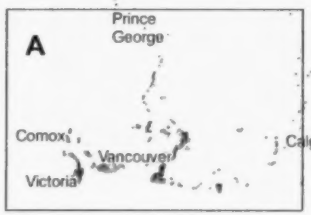
Map 1 Farms reporting apples in Canada, 2006 (see next page).

Map 1 Farms reporting apples in Canada, 2006



Whitehorse

Yellowknife



Régina

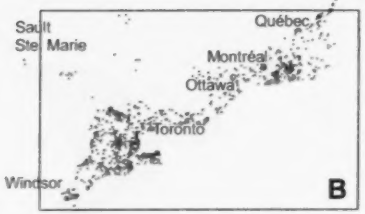
Winnipeg

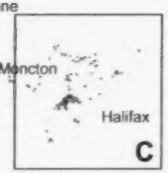
Dryden

St. John's

Matane

Timmins





1 dot = 1 farm reporting apples

Statistics Canada / Statistique Canada

Source: 2006 Census of Agriculture

Produced by: Remote Sensing and Geospatial Analysis (RSGA), Agriculture Division, Statistics Canada, 2008.

Photo: Stewart Wells

In spite of our ability to produce excellent domestic apples, over the past 10 years Canada's apple industry has been under steady pressure from international competitors (Figure 1). Apple production in 2006 was 376,459 tonnes, a 7.9% decrease from 2005 and about a quarter less than 1996 levels according to the Statistics Canada Fruit and Vegetable Survey. Ontario remains the top apple producer, representing 41% of the industry, followed by British Columbia at 24%, Quebec at 23% and Nova Scotia at 10%.

The United States is by far both our top apple exporter and importer (Table 4). With low commodity prices, high production costs and increasing international competition influencing a farmer's decision to remain or even enter the apple industry it is not surprising that Canada spends more than three times as much importing fresh apples than it receives in fresh apple exports. Finding a wide variety of apples from around the world at your fingertips is no stretch of the imagination.

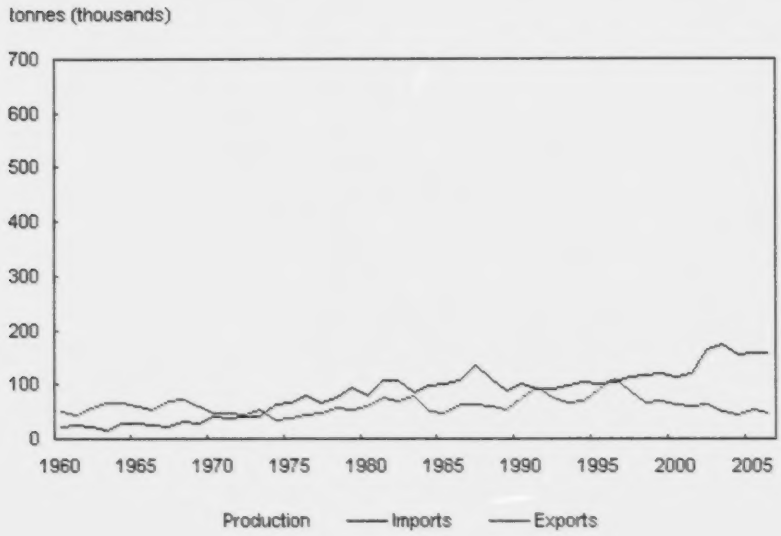
Table 4
Canada's fresh apple partners: top exporting and importing countries, 2005

Exports		Imports	
Country	US$	Country	US$
United States	26,496,573	United States	102,852,702
United Kingdom	5,853,886	Chile	16,134,358
Mexico	4,038,239	New Zealand	11,687,460
Taiwan	2,820,247	South Africa	4,310,348
Dominican Republic	757,746	China	3,933,457
Total exported	42,753,213	Total imported	159,125,035

Note
This table only provides data for Canada's top five trading partners so they will not add up to the total imported or exported value.

Source: Statistics Canada, International Trade Division, *World Trade Atlas*.

Figure 1
Fresh apple production, imports and exports for Canada, 1960 to 2006



Source: Statistics Canada, CANSIM table 002-0010.

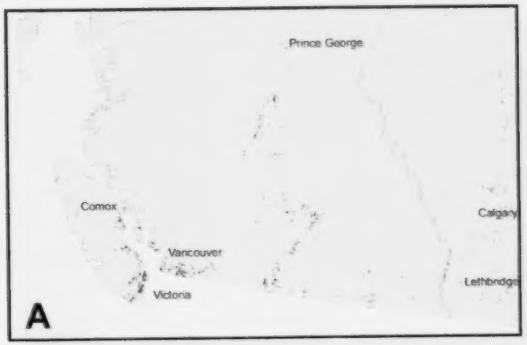
Short season – sweet rewards

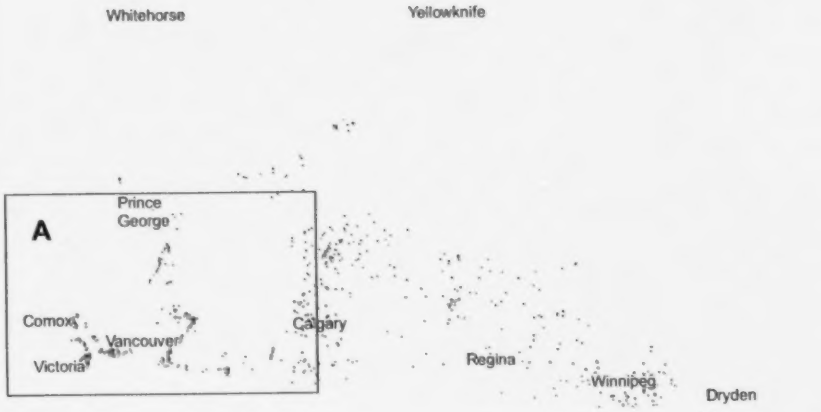
Photo: Erik Dorff

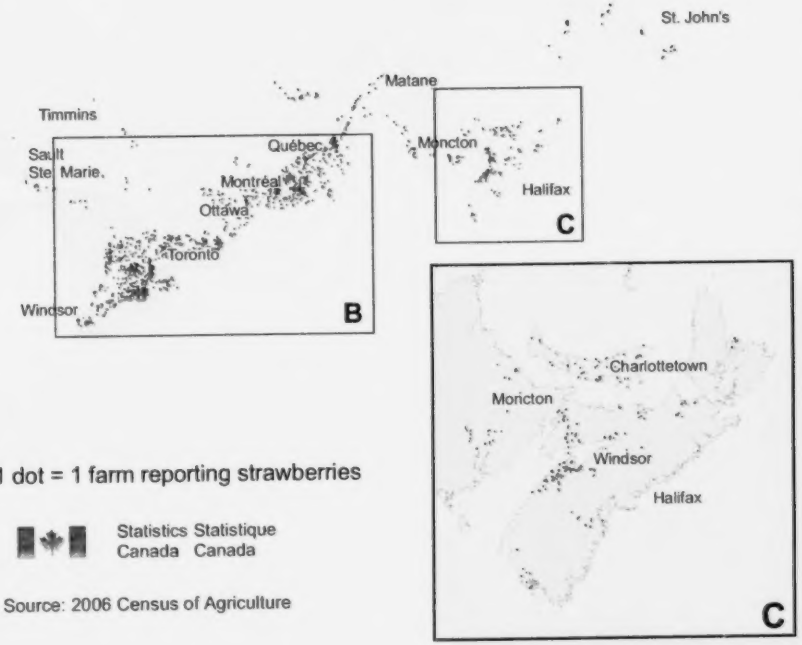
Strawberries are also produced in every province: 2,479 farms in total reported growing strawberries to the 2006 Census of Agriculture (Map 2). Strawberries have a short harvest period, but sourcing locally means they can be enjoyed at the peak of freshness—for a few weeks of delicious summer flavour—and not after a transcontinental journey. Outside that limited time period though, if you want to savour a local strawberry it will have to be frozen or preserved.

Map 2 Farms reporting strawberries in Canada, 2006 (see next page).

Map 2 Farms reporting strawberries in Canada, 2006







1 dot = 1 farm reporting strawberries

Statistics Canada / Statistique Canada

Source: 2006 Census of Agriculture

Produced by: Remote Sensing and Geospatial Analysis (RSGA), Agriculture Division, Statistics Canada, 2008.

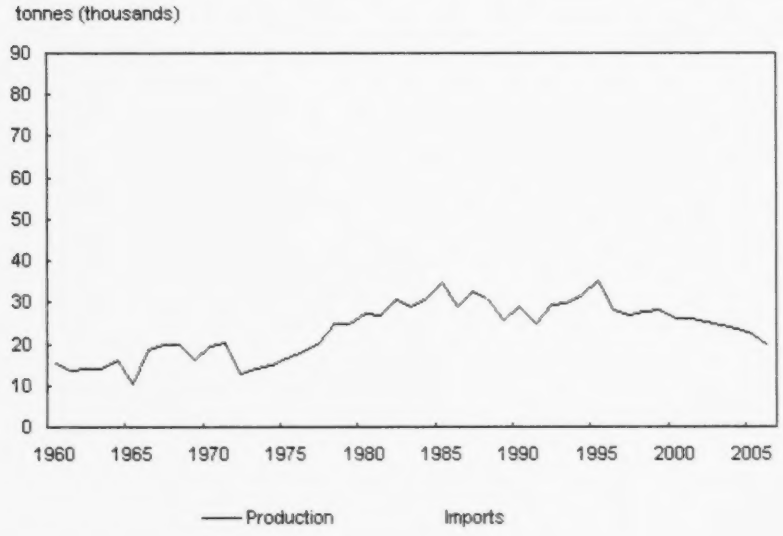
Table 5
Number of farms reporting strawberries and area, census years 2006 and 2001

	2006		2001	
	farms reporting	hectares	farms reporting	hectares
Newfoundland and Labrador	51	64	54	81
Prince Edward Island	45	113	44	121
Nova Scotia	141	325	132	420
New Brunswick	96	189	138	227
Quebec	598	2,000	630	1,918
Ontario	801	1,717	830	2,024
Manitoba	88	167	109	228
Saskatchewan	74	61	94	86
Alberta	184	128	185	145
British Columbia	401	439	408	753
Canada	2,479	5,204	2,624	6,003

Source: Statistics Canada, Census of Agriculture.

In spite of the appeal of freshly picked local strawberries, the industry has also been declining, with the number of farms decreasing 5.5% between 2001 and 2006 and the number of hectares in production falling from over 6,000 in 2001 to 5,200 in 2006 (Table 5). Outside that limited season fresh strawberries have to be imported. As Figure 2 shows, Canadians certainly have a taste for strawberries—and our imports have rapidly outpaced our declining domestic production.

Figure 2
Canadian fresh strawberry production and imports, 1960 to 2006



Source: Statistics Canada, Fruit and Vegetable Survey.

Meet the meat in your next meal

Photo: OFAC Animal Agriculture Photograph Library

Local meats—such as beef, pork, lamb, chicken, turkey, duck, bison and goat—are also produced across the country (Table 6). A look through the agriculture community profiles can tell you how many farms are raising these animals in your area. Local product can often be purchased "cut and wrapped" at the farm gate, from farmers' markets or through local butchers. While some operators will be looking to sell a considerable amount of meat to each client—a side of beef can yield about 100 kilograms of cuts and fill most of a chest freezer—others will be willing to sell smaller orders.

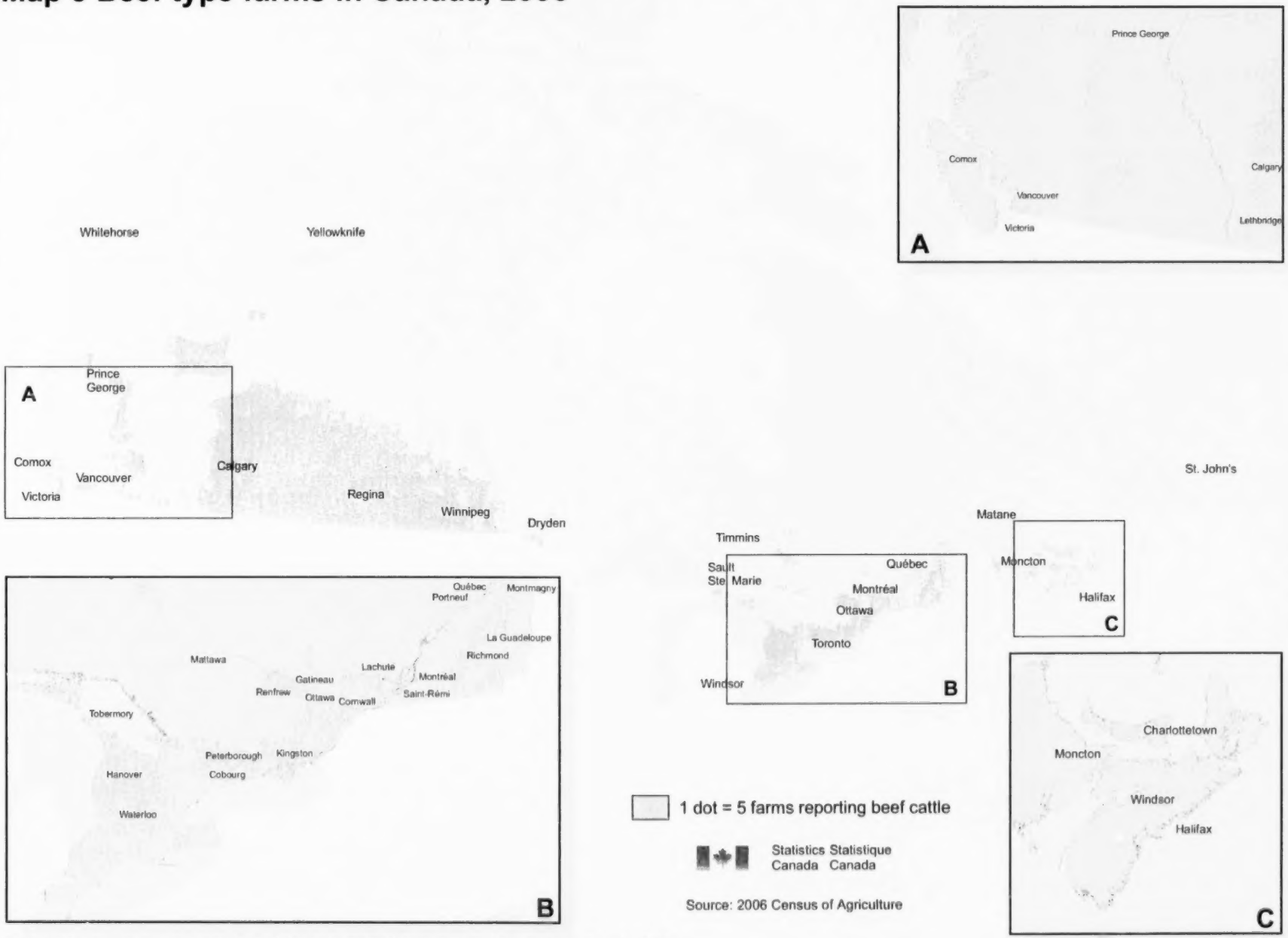
Table 6
Number of farms and inventory for selected livestock and poultry, census year 2006

	Beef, steers and heifers for slaughter		Sheep		Pigs		Hens and chickens		Turkeys	
	farms reporting	number of animals	farms reporting	number of animals	farms reporting	number of animals	farms reporting	number of birds	farms reporting	number of birds
Newfoundland and Labrador	48	328	82	4,642	25	1,999	71	1,570,740	19	5,850
Prince Edward Island	490	26,137	69	3,901	149	123,192	152	447,061	26	3,533
Nova Scotia	731	10,038	269	25,195	164	95,131	527	4,248,495	96	206,057
New Brunswick	509	9,006	131	7,341	124	107,254	286	3,272,263	50	100,684
Quebec	3,883	140,903	1,337	306,808	2,454	4,255,637	2,271	28,899,216	307	1,398,803
Ontario	10,842	490,715	3,408	311,162	4,070	3,950,592	7,397	44,101,552	983	3,556,250
Manitoba	4,386	196,439	644	68,096	1,188	2,932,548	1,391	7,891,068	164	684,987
Saskatchewan	8,966	357,126	1,258	132,359	930	1,388,886	2,222	4,784,631	310	209,723
Alberta	11,933	1,780,388	2,181	222,340	1,576	2,052,067	3,935	11,757,860	652	703,462
British Columbia	3,387	87,002	1,652	61,033	817	135,826	4,460	18,341,907	567	822,036
Canada	45,175	3,098,082	11,031	1,142,877	11,497	15,043,132	22,712	125,314,793	3,174	7,691,385

Source: Statistics Canada, Census of Agriculture.

Map 3 Beef type farms in Canada, 2006 (see next page).

Map 3 Beef type farms in Canada, 2006



Produced by: Remote Sensing and Geospatial Analysis (RSGA), Agriculture Division, Statistics Canada, 2008.

Local vegetables

Along with locally raised meat, every Canadian province grows a variety of field vegetables (which exclude potatoes) to fill your plate in season, though production varies with climate and demand (Map 4 and Table 7).

Table 7
Number of farms reporting selected field vegetables and potatoes, census year 2006

	Sweet corn	Tomatoes	Cucumbers	Green peas	Green and wax beans	Cabbage	Broccoli	Carrots	Onions	Potatoes
	Farms reporting									
Newfoundland and Labrador	24	16	21	15	14	101	55	121	27	132
Prince Edward Island	31	25	32	21	41	26	28	48	29	412
Nova Scotia	78	115	107	91	130	56	44	123	50	90
New Brunswick	84	75	88	59	95	52	42	85	44	341
Quebec	781	505	409	346	532	342	210	396	283	583
Ontario	1,399	1,429	964	763	852	442	346	648	429	904
Manitoba	156	118	105	52	69	52	31	86	41	229
Saskatchewan	115	78	105	80	87	77	42	115	63	210
Alberta	196	148	189	220	189	128	94	244	148	402
British Columbia	519	517	427	325	428	231	271	437	370	364
Canada	3,383	3,026	2,447	1,972	2,437	1,507	1,163	2,303	1,484	3,667

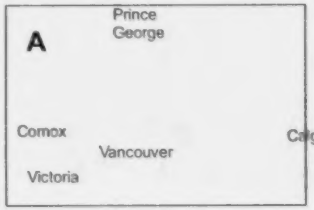
Source: Statistics Canada, Census of Agriculture.

Map 4 Farms reporting field vegetables in Canada, 2006 (see next page).

Map 4 Farms reporting field vegetables in Canada, 2006

Whitehorse

Yellowknife



Regina

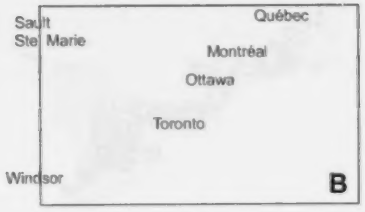
Winnipeg

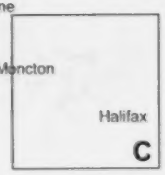
Dryden

St. John's

Matane

Timmins





1 dot = 1 farm reporting field vegetables

Statistics Canada / Statistique Canada

Source: 2006 Census of Agriculture

Produced by: Remote Sensing and Geospatial Analysis (RSGA), Agriculture Division, Statistics Canada, 2008.

Photo: Houweling's Hot House

While Canadians often have a wide choice of local vegetable products in season, a varied off-season diet is more of a challenge. Buying locally produced vegetables when the growing season isn't in full swing often means incorporating fresh products that store well, such as potatoes, carrots, squash, turnips and cabbage. Produce grown in greenhouses, hoop houses or cold frames also stretches the harvest season beyond what is possible outdoors, as does choosing hardier or faster-growing varieties such as rapini and kale rather than more common vegetables such as broccoli and lettuce. Locally processed or frozen products are another option.

Going the distance—or not

In an era when almost every imaginable good routinely travels across land, water and sky to your local store, it can be easy to forget the processes, people and places involved in nurturing—if not sustaining—ourselves, our families and our communities.

Many factors can play varying roles in contributing to an individual's choice of what products to purchase and consume, including cost, quality, type, community impacts as well as the energy requirements to transport the goods.

When it comes to food choice, for some "food miles" may be a top priority but for others, factors such as overall food preference, affordability, variety, nutrition, cultural acceptability, novelty, food security or flavour may take equal or greater consideration.

For those who choose to source food locally, contributing factors for this choice may be the perceived benefits of reduced transport energy requirements, secure access to quality food, support of local economies, fostering a sense of community and/or establishing a rapport with those growing and raising our food. At the very least, the concept presents some food for thought.

Photo: Paul Young